Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An image sensor comprising:

(a) a plurality of pixels <u>arranged in an array of rows and columns</u>;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets; and

(c) a mechanism for controlling integration time of the different sets of kernels according to their spatial location, wherein the integration time is different for each set of the kernels.

2. (Original) The image sensor as in claim 1, wherein the color filter pattern is a Bayer color filter pattern.

3. (Original) The image sensor as in claim 1, wherein the color filter pattern is a 2x2 kernel.

4. (Original) The image sensor as in claim 3, wherein the integration time pattern is an alternating pattern of two lines at one integration time and adjacent two lines at a second integration time.

5. (Original) The image sensor as in claim 3, wherein the integration time for a first set of 2x2 pixels associated with a first kernel is at a first integration time, and the integration time of adjacent 2x2 kernels in the same set of two lines at a second integration time.

6. (Original) The image sensor as in claim 5, wherein the integration time pattern of adjacent two lines groups is offset by two pixels.

7. (Cancelled)

8.   (Original) An image sensor comprising:

(a) a plurality of pixels arranged in an array of rows and columns; and

(b) a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.

9.   (Currently amended) A camera comprising:

(a) an image sensor comprising:

(a1) a plurality of pixels arranged in an array of rows and columns;

(b) a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a plurality of color filter kernels having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets; and

(c) a mechanism for controlling integration time of the different sets of kernels according to their spatial location, wherein the integration time is different for each set of the kernels.

10.   (Original) The camera as in claim 9, wherein the color filter pattern is a Bayer color filter pattern.

11.   (Original) The camera as in claim 9, wherein the color filter pattern is a 2x2 kernel.

12.   (Original) The camera as in claim 11, wherein the integration time pattern is an alternating pattern of two lines at one integration time and adjacent two lines at a second integration time.

13.   (Original) The camera as in claim 11, wherein the integration time for a first set of 2x2 pixels associated with a first kernel is at a

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first integration time, and the integration time of adjacent 2x2 kernels in the same set of two lines at a second integration time.

14. (Original) The camera as in claim 13, wherein the integration time pattern of adjacent two lines groups is offset by two pixels.

15. (Cancelled)

16. (Original) The camera as in claim 9 further comprising a mechanism that reads out at least a subset of the plurality of pixels and uses the signal values obtained from the readout to determine the integration times of the plurality of pixels.

17. (Original) A camera comprising:
(a) an image sensor comprising:
(b) a plurality of pixels arranged in an array of rows and columns; and

(c) a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.

18. (Previously presented) The camera as in claim 17, wherein the data values are reconstructed in a camera memory.

19. (New) The image sensor of claim 1, further comprising a signal line for each row of pixels in the array, wherein each signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.

20. (New) The camera of claim 9, wherein the image sensor further comprises a signal line for each row of pixels in the array, wherein each

signal line is routed to at least a portion of the pixels in two adjacent rows based on the arrangement of the color filter kernels.